

## **REMARKS**

### **I. The Advisory Action**

In the Advisory Action having a mail date of 18 December 2008, the Examiner states that Applicants' response filed 2 December 2008 to the final Office Action will not be entered because the claim amendments allegedly raise new issues. Notwithstanding the fact that the response will not be entered, the Examiner nevertheless rejected Applicants' arguments regarding the failure of the secondary reference, US 3,944,513 to Greenwald et al. ("Greenwald"), to support the obviousness rejections of record. The Examiner concluded that the combined teaching with Greenwald is proper. Accordingly, the rejection in the final Office Action is maintained.

Concurrent with this response, Applicants have filed a Request for Continued Examination under 37 C.F.R. §1.114 with the request that the previous response and claim amendments, filed 18 December 2008, be entered and considered.

The Examiner is also respectfully requested to consider this supplemental response which is specifically directed to the Examiner's comments regarding Greenwald as set forth in the Advisory Action.

### **II. Greenwald**

Greenwald is directed to the purification of aqueous dispersions of particulate vinyl polymers (col. 1, lines 5-8). The process is of particular benefit for treating dispersion of solid polymers prepared by emulsion polymerization (col. 3, lines 9-17). According to Greenwald, such dispersion are purified and deodorized by contact with adsorbent carbon particles at a temperature above the  $T_g$  of the dispersed polymer particles (Abstract).

As background to Greenwald's claimed method, it is disclosed that earlier attempts to purify aqueous dispersions of vinyl polymers by contact with activated carbon failed, possibly because of removal of the emulsifier and consequent coagulation (col. 1, lines 44-47). Therefore, at the time Greenwald's claimed invention was made, there was a clear teaching in the art against removal of the emulsifier following emulsion polymerization of an aqueous dispersion of vinyl polymers.

At column 3, lines 33-39, Greenwald repeats the teaching against removal of the emulsifier. Specifically, it is disclosed that the adsorbent carbon particles used in Greenwald's claimed method must be selective "against materials desirably left in the dispersion such as emulsifiers and dispersants". This disclosure must be read in light of the background to Greenwald's claimed invention and the known problems associated with removal of the emulsifier and consequent coagulation (col. 1, line 44-47). Applicants submit, therefore, that the disclosure by Greenwald against removal of materials desirably left in the dispersion such as emulsifiers and dispersants is not optional as alleged by the Examiner in the Advisory Action. Rather, The American Heritage Dictionary 2nd Edition defines "desirable" as meaning *advisable*. Therefore, to avoid coagulation, Greenwald warns that it is advisable to leave the emulsifier in the dispersion. As such, the disclosure by Greenwald at column 1, lines 44-47, is unmistakably a clear teaching against removal of the emulsifier from the dispersion.

Furthermore, Applicants respectfully submit that the Examiner's reliance on the disclosure by Greenwald at column 6, lines 49-51, is misplaced. The cited disclosure reads as follows:

The dispersion may contain nonionic or ionic surface active agents, or both, although in some cases no dispersant need be present.

The Examiner relies on the cited sentence to support the Examiner's position that Greenwald teaches the removal of the dispersant. Applicants disagree. The first half of the cited sentence provides that "[t]he dispersion may contain...surface active agents" which means that a surface active agent was present during polymerization and was not removed after the polymerization reaction. The second half of the cited sentence provides that "no dispersant need be present". Applicants submit that a reasonable interpretation of this second half of the cited sentence is that a dispersant was never present during polymerization and, therefore, there is no dispersant to be removed after polymerization. As such, Greenwald cannot teach or suggest removal of the emulsifier from the dispersion.

Finally, it is understood that an emulsifier falls under the broad category of dispersants. However, Greenwald makes a clear distinction between these two terms at column 3, line 36. Instead of using the generic term "dispersants", Greenwald identifies emulsifiers and dispersants as separate and distinct materials desirably left in the dispersion. This distinction is consistent

with technical definitions of these terms and Greenwald's concern about coagulation following removing of the emulsifier (col. 1, lines 46-47). In this regard, the Examiner's attention is directed to the website

([http://old.iupac.org/reports/2001/colloid\\_2001/manual\\_of\\_s\\_and\\_t/node36.html](http://old.iupac.org/reports/2001/colloid_2001/manual_of_s_and_t/node36.html)) which provides the following definitions:

*A surface active agent (= surfactant)* is a substance which lowers the surface tension of the medium in which it is dissolved, and/or the interfacial tension with other phases, and, accordingly, is positively adsorbed at the liquid/vapour and/or at other interfaces. The term surfactant is also applied correctly to sparingly soluble substances, which lower the surface tension of a liquid by spreading spontaneously over its surface.

*An emulsifier* is a surfactant which when present in small amounts facilitates the formation of an emulsion, or enhances its colloidal stability by decreasing either or both of the rates of aggregation and coalescence.

In view of these technical definitions, it is evident that an emulsifier and dispersant are different and function differently. Specifically, an emulsifier decreases the rates aggregation and coalescence. Greenwald appreciated this difference and was most concerned about removal of the emulsifier from the dispersions and consequent coagulation (col. 1, lines 44-49).

Accordingly, the Examiner's reliance on the disclosure by Greenwald at column 6, lines 49-51, that "no dispersant need be present" cannot properly be extended to emulsifiers, the removal of which is followed by coagulation on the grounds that: (a) the terms have different meanings in the art; (b) a dispersant and emulsifier function differently; and (c) Greenwald made clear distinction between a dispersant and emulsifier.

**CONCLUSION**

Relying on the preceding comments regarding Greenwald in response to the Examiner's comments in the Advisory Action, Applicants maintain that the obviousness rejections of record as set forth in the final Office Action, mailed 3 September 2008, are improper for the reasons set forth in the response filed 2 December 2008.

Authorization is hereby given to charge any fee due in connection with this communication to Deposit Account No. 23-1703.

Dated: 26 January 2009

Respectfully submitted,

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